

**The Dingley Press
Androscoggin County
Lisbon, Maine
A-506-70-D-A**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #3**

After review of the Part 70 License application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A, Section 344 and Section 590, the Department finds the following facts:

I. Registration

A. Introduction

FACILITY	The Dingley Press (Dingley)
LICENSE NUMBER	A-506-70-D-A
LICENSE TYPE	Part 70 Major Change
NAICS CODES	323110
NATURE OF BUSINESS	Commercial Lithographic Printing
FACILITY LOCATION	Lisbon, Maine
DATE OF INITIAL LICENSE ISSUANCE	February 28, 2001
DATE OF AMENDMENT ISSUANCE	August 26, 2003
LICENSE EXPIRATION DATE	February 28, 2006

B. Description

Dingley operates a Regenerative Thermal Oxidizer (RTO) for control of VOC emissions from the facility's Presses #3, #5, #6, and #7. In this amendment, Dingley proposes to re-evaluate Best Available Control Technology (BACT) for this process.

As part of their original BACT analysis, Dingley reviewed several VOC control strategies including: RTO, carbon adsorption, catalytic oxidation, direct fired thermal oxidation, and condensation/removal. All of these strategies were determined to be technically feasible. Direct fired thermal oxidation provided the highest destruction efficiency (99%+). RTOs had the second highest destruction efficiencies (95 – 99%). However, direct fired units are about half as energy efficient as RTOs and, therefore, their operating (fuel) costs are significantly higher. Due to the higher energy demands of the direct fired systems, a RTO was selected as BACT for use as control for VOC emissions.

Dingley installed the RTO with an assumed destruction efficiency of 99% based on the manufacturer's guarantee. The original RTO manufacturer has since declared bankruptcy and been assumed by a new company.

Recent preliminary testing indicates that the RTO can not achieve the original manufacturer's guaranteed destruction efficiency. One inherent RTO design feature that affects the overall control efficiency is the use of dampers for ceramic bed heat recovery chamber switchovers. This design aspect produces an unavoidable minimum design leakage even when the system is brand new.

In order to maximize the performance of their system, Dingley has recently performed the following work on their RTO:

- Replaced all four valves/dampers with new poppet type fast acting valves to minimize any design leakage.
- Replaced the top two feet of ceramic media in both the A & B chambers with new media.
- Fresh air damper was programmed to be closed at all times except during low flow conditions.
- The fixed timing on the stack and VOC chamber valves was changed to variable timing dependent on flow rates.
- Installed damper on VOC chamber evacuation line.
- Added three couplings and a thermocouple to each ceramic media chamber. The thermocouple is wired so it can be placed in each of the three couplings to allow Dingley to measure the temperature in each media bed at different locations.
- Test ports were added to the bottom of each ceramic media chamber just above the outlet valves to allow for diagnostic testing of the destruction chamber prior to interference from the valves.
- Combustion chamber and VOC chamber access doors were added to allow for easier inspection and cleaning.

With the upgrades mentioned above, it is expected that Dingley should be able to achieve a destruction efficiency of 97.5%. A search of EPA's RACT/BACT/LAER Clearinghouse determined that states identified control levels ranging from 95% - 98% destruction efficiency using catalytic and thermal oxidizers.

Dingley proposes to meet BACT by controlling dryer emissions from Presses #3, #5, #6, and #7 with an RTO capable of 97.5% destruction efficiency based on 1000 ppmv or higher VOC inlet loading. If the inlet VOC content is less than 1000 ppmv, the VOC outlet shall not exceed 25 ppmv at actual stack conditions.

C. Application Classification

This amendment requires a change in a case-by-case determination of an emission standard.

The modification of a major source is considered a major modification based on whether or not expected emission increases exceed the “Significant Emission Increase Levels” as given in Maine’s Air Regulations.

The emission increases are determined by subtracting the average actual emissions of the two calendar years preceding the modification from the maximum future license allowed emissions, as follows:

<u>Pollutant</u>	<u>2001/2002 Ave. Actual (TPY)</u>	<u>Future License (TPY)</u>	<u>Net Change (TPY)</u>	<u>Sig. Level</u>
VOC	41.8	81.7	39.9	40

Therefore, this modification is not major. This amendment has been determined to be a Major Change per MEDEP Chapter 140 and has been processed as such.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that emissions from this sources:

- will receive Best Practical Treatment;
- will not violate applicable emissions standards
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants this Part 70 Major Change A-506-70-D-A subject to the conditions found in Air Emission License A-506-70-A-I, in the following amendments: A-506-70-B-A, A-506-70-C-M, and in addition to the following conditions:

The following shall replace Conditions (24)(J) and (24)(H) of Air Emission Licenses A-506-70-A-I and A-506-70-B-A:

- (24) J. Emissions from Presses #3, #5, #6, and #7 shall vent to a thermal oxidizer that will achieve 97.5% destruction of VOC from the dryers based on 1000 ppmv or higher VOC inlet measured as propane at actual air stream conditions. If the inlet VOC content is below 1000 ppmv, the VOC outlet shall not exceed 25 ppmv at actual stack conditions. Compliance shall be demonstrated by stack testing within 30 days of the issuance of this amendment (A-506-70-D-A) and once every two years thereafter. After two sets of successful compliance demonstrations, Dingley may apply to reduce the frequency of stack testing required. [MEDEP Chapter 140, BPT]
- K. The thermal oxidizer shall maintain a temperature of at least 1300°F or the temperature which successful stack testing demonstrates a destruction efficiency of at least 97.5%. Compliance shall be demonstrated by thermocouples maintained in the incinerator chambers. The thermal oxidizer control system is equipped with interlocks which shut down the presses if the temperature drops below 1300°F. The temperature shall be recorded daily by operators. [MEDEP Chapter 140, BPT]

The following shall replace Condition (26) of Air Emission Licenses A-506-70-A-I and A-506-70-B-A:

- (26) Overall VOC emissions from the facility shall not exceed 81.7 ton/year based on a 12 month rolling total. Dingley shall maintain monthly records to demonstrate compliance with this limit. [MEDEP Chapter 140, BPT]

The following are new Conditions:

- (42) Dingley shall pay the annual air emission license fee within 30 days of October 31st of each year. Pursuant to 38 M.R.S.A. Section 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for revocation of the license under 38 M.R.S.A. Section 341-D, Subsection 3.

**The Dingley Press
Androscoggin County
Lisbon, Maine
A-506-70-D-A**

5

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #3**

(43) This amendment shall expire concurrently with Air Emission License A-506-70-A-I

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: 5/14/03

Date of application acceptance: 5/14/03

Date filed with the Board of Environmental Protection: _____

This Order prepared by Lynn Ross, Bureau of Air Quality.